Docket No.: 131105-1003
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Li Mo et al.

Application No.: 10/044,106 | Confirmation No.: 8105

Filed: January 11, 2002 | Art Unit: 2619

For: SYSTEM AND METHOD OF VIRTUAL PRIVATE NETWORK ROUTE TARGET FILTERING | Examiner: S. Tsegaye

APPEAL BRIEF

MS Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Madam:

As required under § 41.37(a), this brief is filed more than two months after the Notice of Appeal filed in this case on October 20, 2008, and is in furtherance of said Notice of Appeal.

The fees required under § 41.20(b)(2) are being paid by credit card at the time of electronic filing of this Appeal Brief. The commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 07-0153 of Gardere Wynne Sewell LLP, referencing docket number 131105-1003.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1205.2:

I. REAL PARTY IN INTEREST

The real party in interest for this appeal is Fujitsu Limited. The entire interest in the provisional application from which the present application claims benefit and the present application were assigned to Fujitsu Network Communications, Inc. by assignments from the inventors, Nimer Yaseen, recorded on January 11, 2002, at Reel 012484, Frame 0932, Robert T. Gibson, recorded on January 11, 2002, at Reel 012484, Frame 0941, James H. Buchanan, recorded on January 11, 2002, at Reel 012484, Frame 0927, and Li Mo, recorded on January 11, 2002, at Reel 012485, Frame 0094. The entire interests in the present application and the provisional application were subsequently assigned to Fujitsu Limited by an assignment from Fujitsu Network Communications, Inc., recorded on July 18, 2005, in the Assignment Records of the United States Patent and Trademark Office at Reel 016778, Frame 0746.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There are 17 claims pending in application.

B. Current Status of Claims

1. Claims canceled: 5,11 and 17
2. Claims withdrawn from consideration but not canceled: none
3. Claims pending: 1-4, 6-10, 12-16, and 18-20
4. Claims allowed: none
5. Claims rejected: 1-4, 6-10, 12-16, and 18-20

C. Claims On Appeal

The claims on appeal are claims 1-4, 6-10, 12-16, and 18-20

IV. STATUS OF AMENDMENTS

Applicant did not file an Amendment After Final Rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The independent claims 1, 6, and 13 contemplate filtering and distributing routes to sites in a virtual private network 10 (Fig. 1). A "route" represents information used by a router in the virtual private network 10 to forward packets to a particular address. Each route used by a claimed apparatus, or in a claimed method, includes a route distinguisher, a route target, and next hop routing information. See p. 4 at lines 17-27. As is well-known in the art, an address (or a prefix of that address) or label contained in a header of the packet is used to look up the route information associated with that address or label, with the next hop being the address of the next router to which the packet will be forwarded. The route distinguisher attribute enables a router to distinguish a route between private addresses that may not be globally unique. Spec., p. 2, at lines 1-3. A route target attribute allows routers to limit destruction of routes being exchanged between them. Spec., p. 2, at lines 3-8. When routes are received from a route distributor (e.g., a route reflector as in Fig. 2), a subset of these routes is accepted according to a predetermined policy by, for example, one or more import filters 40. A re-export filter 44 is used to modify the next hop information of a second subset of the received routes for distribution to, for example, a route reflector. See Fig. 2.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether the rejection of claims 1-3, 6-9, 12-15, and 18-20 under 35 U.S.C.§102(e) as being anticipated by U.S. Patent No. 6,526,056 (Rekhter et al.) is in error.

Whether the rejection of claims 4, 10, and 16 under 35 U.S.C.§103(a) as being obvious over U.S. Patent No. 6,526,056 (Rekhter et al.) in view of U.S. Patent No. 6,633,563 (Lin) is in error.

VII. ARGUMENT

A. Rejection of Claims 1-3, 6-9, 12-15, and 18-20 Under §102(e)

1. Standard

Under 35 U.S.C. § 102(e), a claim is anticipated only if each and every element as set for the in the claim is found in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); M.P.E.P. § 2131. In addition, "[t]he identical invention must be shown in as complete detail as contained in the . . . claims" and "[t]he elements must be arranged as required by the claim." *Richardson v. Suzuki Motor Co.*, 9. U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989); In re Bond, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990); M.P.E.P. § 2131.

2. Argument

The examiner fails to understand the difference between a "route," as that term is used in the data networking field, and a "packet." This failure to appreciate one of the most basic principles in the field, leads to commission of a number of errors in the reasoning supporting the examiner's rejection.

The examiner relies on Rekhter at Fig. 9 to teach a VPN in which a packet originating at node CE3 in VPN B is addressed to node D in VPN A. As described at col. 32, line 63-col. 33, line 11, the packet is identified as originating from VPN B, and a next hop is determined as PE2 per a VFIB for VPN B. Thus, the packet is sent to PE2, which sends it on to CE2in VPN A. CE2 then sends the packet back to PE2, which identifies the packet as originating from VPN A. Then, PE2 looks up D in its VFIB for VPN A and finds that the next hop is PE1. Thus, the packet can be sent to PE1, from which it is routed to CE1 and then to D.

Neither the subject matter cited by the examiner, namely Fig. 9 and columns 32 and 33, nor any other part of Fig. 9 and col. 32, line 63-col. 33, line 11 describes, recites the importing, exporting, filtering or modification or distribution of routes, much less all of the

limitations of each of the claims. Rather, the cited passage and figure of Rekhter et al. describe merely packets being routed through a VPN.

Applicants' claimed subject matter is directed toward filtering and distributing routes to sites in a virtual private network. A route is information used by a router to decide where to forward a packet with a given address. It is stored in a database in a router. When a router receives a packet, it uses either the address to which the packet is being sent or, if MPLS or another label switching scheme is being used, a label to look up the route. Each route includes a route distinguisher, a route target, and next hop routing information. See Spec. at p. 4, lines 17-27. Although packets are, as with any other type of information carried over IP networks, the underlying transport mechanism for exchanging routes in an IP-based network, a packet is not a route.

According to the claimed subject matter, when routes are received at a router from a route distributor (e.g. another router), a subset of these routes is accepted according to a predetermined policy. Another subset of the received routes have their next hop information modified. These modified routes are then distributed. Rekhter et al. make no mention of any of these limitations. For example, the following limitations of independent claim 1 are not met: "an import filter receiving a plurality of routes from a route distributor, the plurality of routes having a route distinguisher, a route target, and a next hop routing information, the import filter accepting a first subset of the routes according to an import target policy; and a re-export filter receiving the plurality of routes from the route distributor, the re-export filter modifying the next hop information of a second subset of the routes, and distributing the modified routes." Independent claims 6 and 13, recite similar subject matter, including limitations concerning filtering or accepting a subset of received routes and exporting a second subset of received routes with modified next hop information.

Given that Rekhter et al. do not teach each and every limitation of each of the independent claims 1, 6 and 13, the reasoning of the examiner in support of the rejection under §102(e) of claims 1, 6 and 13, and their respective dependent claims 2-3, 7-9, 12, 14-15 and 18-20 is in error and does not establish a *prima facie* case of anticipation.

B. Rejection of claims 4, 10, and 16 under §103(a)

1. Standard

Obviousness under 35 U.S.C. § 103(a) is a question of law that is resolved based on underlying factual inquiries. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966). See also, *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734, 82 USPQ2d 1385, 1391 (2007). The factual inquiries that must be determined are: (1) the scope and content of the prior art; (2) the differences between the claimed invention and the prior art; and (3) the level of ordinary skill in the pertinent art. *Graham*, 383 U.S. 1, 17-18, 148 USPQ at 467. Evidence of "secondary considerations" may also be taken into account in order to "give light to the circumstances surrounding the origin of the subject matter sought to be patented." 383 U.S. at 18, 148 USPQ at 467.

The person of ordinary skill in the art is a hypothetical person who is presumed to know the relevant prior art. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962, 1 USPQ2d 1196, 1201 (Fed. Cir. 1986). In determining this skill level, the court may consider various factors including "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." Id. (*In re GPAC*, 57 F.3d 1573, 1579, 35 USPQ2d 1116, 1121 (Fed. Cir. 1995)). In a given case, every factor may not be present, and one or more factors may predominate. Id. at 962-63, 1 USPQ2d at 1201.

"Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinnings to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Accord, *KSR*, at 1741, 82 USPQ2d at 1396. See also, "Examination Guidelines for Determining Obviousness under 35 U.S.C. §103 in view of the Supreme Court decision in KSR International, Co. v. Teleflex Inc," Federal Register. Volume 72, No. 195 (October 10, 2007) at 57527 (Factual findings made by Office personnel are necessary underpinnings to establish obviousness. Once findings of fact are articulated, Office personnel must provide an explanation to support an obviousness rejection under 35 U.S.C. §103.)

2. Argument

Because this rejection is premised as the same fundamental mistakes in understanding the basic concepts of the subject matter being claimed as the rejection under 35 U.S.C. §102(e), it is in error for at least the same reasons.

Furthermore, the examiner relies on Lin to teach a re-export filter comprising a mask, a value for comparison with the route and an action to take in response to a match between the route and the comparison value. However, Lin is directed to assigning packets to processors, and not to modifying or distributing routes. Therefore, Lin cannot reasonably be viewed as supplying the teachings absent from Rekhter et al. Accordingly, Rekhter et al. and Lin cannot, together, meet all of the limitations of each of the independent claims.

VIII. CLAIMS

A copy of the claims involved in the present appeal is attached hereto as Appendix A.

CONCLUSION

In view of the errors noted above in the examiner's rejections of claims 1-4, 6-10, 12-16, and 18-20, applicants respectfully request the Board of Patent Appeals and Interferences to reverse the final rejection of the examiner and instruct the examiner to issue a notice of allowance of all claims.

Dated: January 21, 2009

Respectfully submitted,

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APPENDIX A

Claims Involved in the Appeal of Application Serial No. 10/044,106

1. A system for filtering and distributing routes to sites in a virtual private network, the routes being used by a router to forward packets, comprising:

an import filter receiving a plurality of routes from a route distributor, the plurality of routes having a route distinguisher, a route target, and a next hop routing information, the import filter accepting a first subset of the routes according to an import target policy; and

a re-export filter receiving the plurality of routes from the route distributor, the re-export filter modifying the next hop information of a second subset of the routes, and distributing the modified routes.

2. The system as set forth in claim 1, wherein the re-export filter modifies the next hop information to be the address of a router serving as a firewall of a network.

3. The system, as set forth in claim 1, wherein the re-export filter modifies the next hop information to be the address of a firewall of a virtual private network.

4. The system, as set forth in claim 1, wherein the re-export filter comprises a mask, a value for comparison with the route, and an action to take in response to a match between the route and the comparison value.

5. (Canceled)

6. A network, comprising:

a hub node;

a plurality of spoke nodes in communications with one another via the hub node; and the hub node including:

an import filter receiving a plurality of routes from a route distributor, the routes being used by a router to forward packets, the plurality of routes having a route distinguisher, a route target, and a next hop routing information, the import filter accepting a first subset of the routes according to an import target policy; and

a re-export filter receiving the plurality of routes from the route distributor, the re-export filter modifying the next hop information of a second subset of the routes, and distributing the modified routes.

7. The network, as set forth in claim 6, wherein the re-export filter modifies the next hop information to be the address of the hub node.

8. The network, as set forth in claim 6, wherein the re-export filter modifies the next hop information to be the address of the hub node serving as a firewall for the network.

9. The network, as set forth in claim 6, wherein the re-export filter modifies the next hop information to be the address of the hub serving as a firewall of a virtual private network.

10. The network, as set forth in claim 6, wherein the re-export filter comprises a mask, a value for comparison with the route, and an action to take in response to a match between the route and the comparison value.

11. (Canceled)

12. The network, as set forth in claim 6, wherein the hub node is a customer edge device coupling a site to a provider network.

13. A method for filtering and distributing routes to sites in a virtual private network, the routes being used by a router to forward packets, comprising:

receiving a plurality of routes each having a route distinguisher, a route target, and a next hop routing information;

accepting a first subset of the plurality of routes according to a predetermined policy;

modifying the next hop information of a second subset of the plurality of routes; and

distributing the modified routes.

14. The method, as set forth in claim 13, wherein modifying the next hop information comprises modifying the next hop information to be the address of a router serving as a firewall of a network.

15. The method, as set forth in claim 13, wherein modifying the next hop information comprises modifying the next hop information to be the address of a firewall of a virtual private network.

16. The method, as set forth in claim 13, wherein the re-export filter comprises a mask, a value for comparison with the route, and an action to take in response to a match between the route and the comparison value.

17. (Canceled)

18. The system as set forth in claim 1, wherein the re-export filter modifies the route distinguisher and the route target, and distributes the modified routes.

19. The network as set forth in claim 6, wherein the re-export filter modifies the route distinguisher and the route target, and distributes the modified routes.

20. The method as set forth in claim 13, wherein the re-export filter modifies the route distinguisher and the route target, and distributes the modified routes.

APPENDIX B

No evidence pursuant to §§ 1.130, 1.131, or 1.132 or entered by or relied upon by the examiner is being submitted.

APPENDIX C

No related proceedings are referenced in II. above, hence copies of decisions in related proceedings are not provided.

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